

**REMARKS**

Applicants have amended claim 96, and have added new claims 107 and 108, each reciting a surface roughness between 0.5 and 1.0  $\mu\text{m}$ . Support for these changes can be found in the specification, for example, on page 20, line 25.

Applicants have also amended claims 55 and 79 to recite an immobilized feature formed within a channel. Support for these amendments can be found in the specification, for example, on p. 13, lines 1-3.

Claims 1-108 are now pending in the application. Claims 1-54, 59, 64, 73-75, 80-95, and 103-106 have been withdrawn from consideration. Claims 55-58, 60-63, 65-72, 76-79, and 96-102 stand rejected.

**Rejections under 35 U.S.C. §102(b) in view of Allen**

Claims 55, 56, 58, 60, 61, 63, 68-72, 76-79 and 96-102 have been rejected under 35 U.S.C. §102(b) as being anticipated by Allen, et al., U.S. Patent No. 5,655,665 ("Allen").

It is not seen where in Allen is there a disclosure or suggestion of a magnetic feature that is formed within a channel, as is recited in independent claims 55 and 79, or a disclosure or suggestion of a feature having a smallest dimension no greater than the smallest dimension of the channel proximate the feature, as is recited in independent claim 96. Instead, in Allen, as shown in Fig. 1, inductive components 53 are located on either side of fluid channel 52, and are not present within the channel. Inductive components 53 appear to be larger than the smallest dimension of fluid channel 52. Similarly, in Figs. 2 and 3, magnetic poles 56 are not contained within fluid channel 52, and appear larger than the smallest dimension of fluid channel 52, and in Figs. 5 and 6, magnetic cores 75 are not contained within fluid flow channel 90 and appear larger than the smallest dimension of fluid flow channel 90. Accordingly, it is respectfully requested that the rejection of independent claims 55, 79, and 96 be withdrawn. Claims 56, 58, 60, 61, 63, 68-72, and 97-102 depend, directly or indirectly, from independent claims 55, 79, or 96, and it is respectfully requested that the rejection of these claims also be withdrawn for at least these reasons.

With respect to independent claim 76, it is not seen where in Allen is there a disclosure or a suggestion of a system capable of producing a magnetic field that is confined within the channel. To the contrary, in Allen, the magnetic cores or magnetic inductors, as illustrated in

Figs. 1-3, 5, and 6, are positioned externally of the channels, and therefore are incapable of producing a magnetic field that is confined within a channel, but must necessarily extend from the channel to the magnetic cores or magnetic inductors. It is therefore respectfully requested that the rejection of independent claim 76 be withdrawn. Claims 77 and 78 depend from claim 76, and are also believed to be allowable for at least these reasons.

Rejections under 35 U.S.C. §102(e) in view of Ahn

Claims 55-58, 60-63, 65, 79, and 96-102 have been rejected under 35 U.S.C. §102(e) as being anticipated by Ahn, et al., U.S. Patent Application Publication No. 2004/0009614 ("Ahn").

Ahn is, in many places, difficult to understand. See, for example, the description of Fig. 4b in paragraph 0072 of Ahn, in relation to the figure itself with respect to several of the numerical component designations. However, it is believed that all embodiments described in Ahn involve a channel in a microfluidic system that flows near magnetic arrays, but none including a feature formed within the channel itself, capable of generating a magnetic field or comprising a magnetic material. Accordingly, it is respectfully requested that the rejection of independent claims 55 and 79 be withdrawn. Claims 57, 58, 60-63, and 65 depend, either directly or indirectly, from independent claim 55, and are believed to be allowable for at least these reasons. Withdrawal of the rejection of these claims is also respectfully requested.

With respect to independent claim 96, it is not seen where in Ahn is there a disclosure or a suggestion or a feature having a surface roughness of between 0.5 and 1.0  $\mu\text{m}$ . Accordingly, it is respectfully requested that the rejection of claim 96 be withdrawn. Claims 97-102 depend, either directly or indirectly, from claim 96, and are believed to be allowable for at least these reasons. Withdrawal of the rejection of these claims is also respectfully requested.

Rejections under 35 U.S.C. §102(e) in view of Backhouse

Claims 55, 56, 58, 60, 62, 63, 66-68, 76-79, and 96-99 have been rejected under 35 U.S.C. §102(e) as being anticipated by Backhouse, U.S. Patent No. 6,318,970 ("Backhouse").

Applicants do not observe where in Backhouse is there a disclosure or a suggestion of an immobilized feature, as recited in claims 55 and 79, as amended. To the contrary, Backhouse discloses plugs of ferrofluids within channels. Accordingly, it is respectfully requested that the rejection of claims 55 and 79 be withdrawn. Claims 56, 58, 60, 62, 63, and 66-68 depend,

directly or indirectly, from independent claims 55 and 79, and it is respectfully requested that the rejection of these claims also be withdrawn for at least the above-mentioned reasons.

With respect to independent claim 76, it is not seen where in Backhouse is there a disclosure or a suggestion of a system capable of producing a magnetic field that is confined within the channel. In Backhouse, while ferrofluid plugs are shown positioned in microchannels (see, e.g., Fig. 7), the ferrofluid plugs are moved within the microchannels through the use of a magnetic drive system positioned externally of the channel (e.g., see Col. 4, lines 56-62). Accordingly, it is believed that the system as described in Backhouse is not capable of producing a magnetic field confined within a channel, and it is respectfully requested that the rejection of independent claim 76 be withdrawn. Claims 77 and 78 depend from claim 76, and are also believed to be allowable for at least these reasons.

It is not seen where in Backhouse is there a disclosure or a suggestion or a feature having a surface roughness of between 0.5 and 1.0  $\mu\text{m}$ , as is recited in independent claim 96, as amended. Accordingly, it is respectfully requested that the rejection of claim 96 be withdrawn. Claims 97-99 depend, either directly or indirectly, from claim 96, and are believed to be allowable for at least these reasons. Withdrawal of the rejection of these claims is also respectfully requested.

Rejections under 35 U.S.C. §103(a) in view of Allen, Backhouse, and Ahn

Claim 57 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Allen or Backhouse in view of Ahn.

Claim 57 ultimately depends from claim 55. For at least the reasons explained above with respect to the rejections under §102 in view of Allen and Backhouse, the premise of the rejection of claim 55 (that Allen or Backhouse teaches all of the limitations of claim 55) is believed to be incorrect. While Applicants do not concede that there would have been any suggestion or motivation to combine Allen or Backhouse with Ahn in the manner suggested in the Office Action, the present rejection cannot stand, regardless. Thus, withdrawal of the rejection of claim 57 is respectfully requested.

Rejections under 35 U.S.C. §103(a) in view of Allen and Backhouse

Claims 66 and 67 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Allen in view of Backhouse.

Claims 66 and 67 each ultimately depend from independent claim 55. For at least the reasons explained above with respect to the rejection under §102(e) in view of Allen, the premise of the rejection of claim 55 (that Allen teaches all of the limitations of claim 55) is believed to be incorrect. Accordingly, while Applicants do not concede that there would have been any suggestion or motivation to combine Allen and Backhouse in the manner suggested in the Office Action, the present rejection cannot stand, regardless. Thus, withdrawal of the rejection of claims 66 and 67 is respectfully requested.

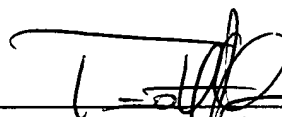
CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the undersigned at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,

By:



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